

TD62551S, TD62553S, TD62554S, TD62555S

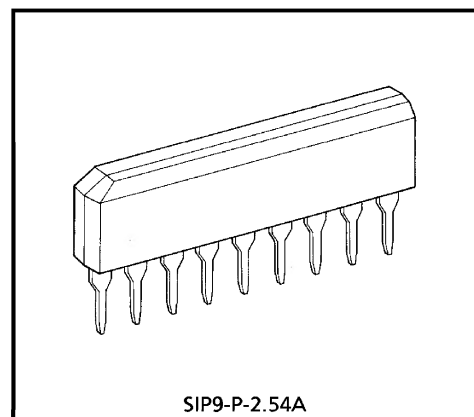
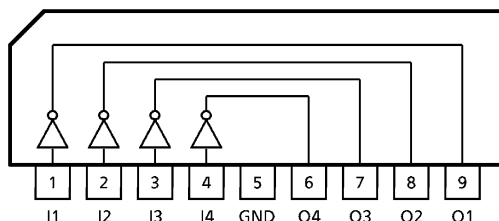
4CH SINGLE DRIVER : COMMON EMITTER

The TD62551S are comprised of four NPN transistor arrays.
Applications include relay, hammer, lamp and display (LED) drivers.

FEATURES

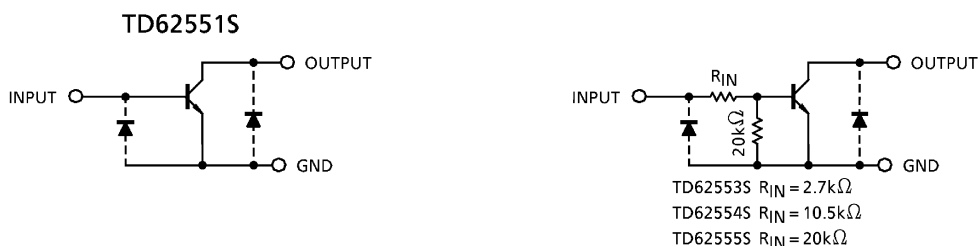
- Output current (single output) 150mA (Max.)
- High sustaining voltage output 25V (Min.)
- Low saturation voltage $V_{CE(sat)} = 0.5V$ @ $I_{OUT} = 50mA$
- Inputs compatible with various types of logic.
- TD62551S : External
- TD62553S : $R_{IN} = 2.7k\Omega$ TTL, 5V CMOS
- TD62554S : $R_{IN} = 10.5k\Omega$ 6~15V PMOS, CMOS
- TD62555S : $R_{IN} = 20k\Omega$ 12~24V PMOS
- Package type-S : SIP-9 pin

PIN CONNECTION



Weight : 0.92g (Typ.)

SCHEMATICS (EACH DRIVER)



(Note) The input and output parasitic diodes cannot be used as clamp diodes.

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MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CEO}	25	V
Collector-Base Voltage	V_{CBO}	35	V
Collector Current	I_C	150	mA / ch
Input Voltage	V_{IN} (Note 1)	20	V
Input Current	I_{IN} (Note 2)	10	mA
Power Dissipation	P_D (Note 3)	0.75	W
Operating Temperature	T_{opr}	$-40 \sim 85$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

(Note 1) Except TD62551S

(Note 2) Only TD62551S

(Note 3) Delated above 25°C in the proportion of $6.0\text{mW}/^\circ\text{C}$.**RECOMMENDED OPERATING CONDITIONS** ($T_a = -40 \sim 85^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Emitter Voltage		V _{CEO}	—	0	—	25	V
Collector-Base Voltage		V _{CBO}	—	0	—	35	V
Collector Current	TD62551S TD62553S	I _C	—	0	—	100	mA / ch
	TD62554S			0	—	80	
	TD62555S			0	—	60	
Input Voltage	TD62553S TD62554S TD62555S	V _{IN}	—	0	—	20	V
Input Current	TD62551S	I _{IN}	—	0	—	5	mA
Power Dissipation		P _D	—	—	—	0.27	W

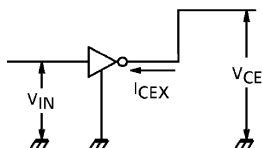
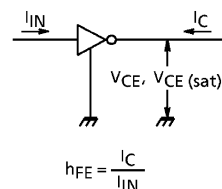
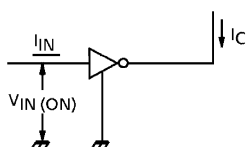
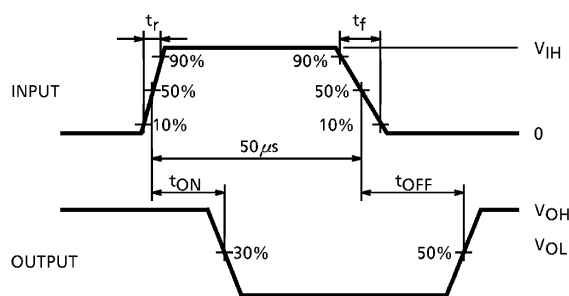
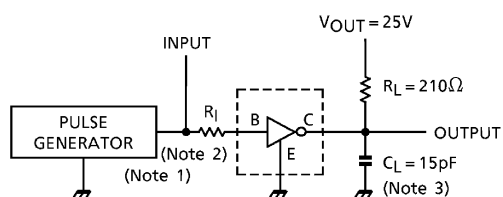
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Leakage Current		I_{CEX}	1	$V_{CE} = 25\text{V}, V_{IN} = 0\text{V}$	—	—	10	μA
Collector-Emitter Saturation Voltage		$V_{CE}(\text{sat})$	2	$I_{IN} = 0.5\text{mA}, I_C = 10\text{mA}$	—	0.15	0.2	V
				$I_{IN} = 2.5\text{mA}, I_C = 50\text{mA}$	—	0.35	0.5	
DC Current Transfer Ratio	(Note 1)	h_{FE}	2	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	60	—	400	—
	(Note 2)				50	—	400	
Input Voltage	TD62553S	$V_{IN}(\text{ON})$	3	$I_{IN} = 0.5\text{mA}, I_C = 10\text{mA}$	1.7	2.1	2.5	V
	TD62554S				4.4	6.0	7.6	
	TD62555S				7.7	10.7	13.8	
Turn-On Delay		t_{ON}	4	$V_{OUT} = 25\text{V}, R_L = 210\Omega$ $C_L = 15\text{pF}$	—	100	—	ns
Turn-Off Delay		t_{OFF}			—	500	—	

(Note 1) Except TD62551S.

(Note 2) Only TD62551S.

TEST CIRCUIT

1. I_{CEX} 2. h_{FE} , $V_{CE(sat)}$ 3. $V_{IN(ON)}$ 4. t_{ON} , t_{OFF} 

(Note 1) Pulse Width $50\mu s$, Duty Cycle 10%
Output Impedance 50Ω
 $t_r \leq 5ns$, $t_f \leq 10ns$

(Note 2) See right.

(Note 3) C_L includes probe and jig capacitance.

INPUT CONDITION

TYPE NUMBER	R_I	V_{IH}
TD62551S	$2.7k\Omega$	3V
TD62553S	0Ω	3V
TD62554S	0Ω	10V
TD62555S	0Ω	14V

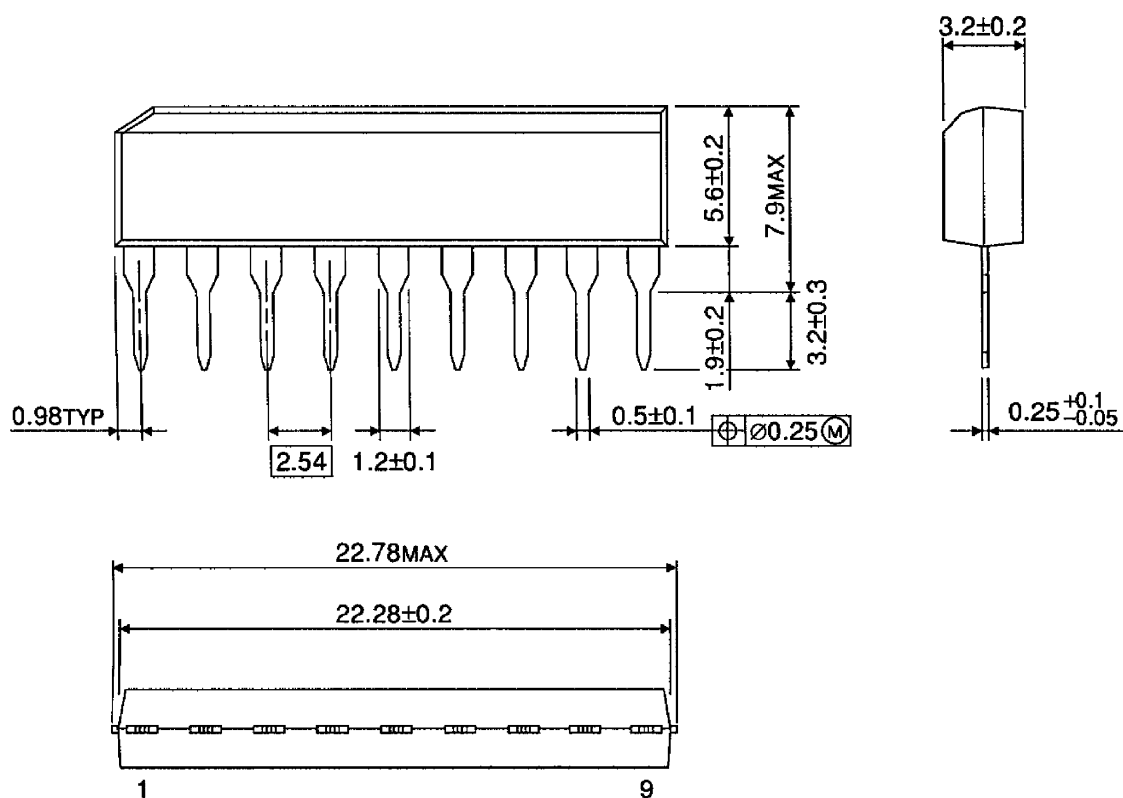
PRECAUTIONS for USING

Utmost care is necessary in the design of the output line, V_{CC} and GND line since IC may be destroyed due to short-circuit between outputs, air contamination fault, or fault by improper grounding.

OUTLINE DRAWING

SIP9-P-2.54A

Unit : mm



Weight : 0.92g (Typ.)

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